

(12) **UK Patent Application** (19) **GB** (11) **2 341 227** (13) **A**

(43) Date of A Publication 08.03.2000

(21) Application No 9819144.8

(22) Date of Filing 02.09.1998

(71) Applicant(s)  
John Edward Rodbourne  
Weston House, GREYWELL, Hampshire, RG29 1BZ,  
United Kingdom

(72) Inventor(s)  
John Edward Rodbourne

(74) Agent and/or Address for Service  
J A Kemp & Co.  
14 South Square, Gray's Inn, LONDON, WC1R 5LX,  
United Kingdom

(51) INT CL<sup>7</sup>  
F21V 21/084 // F21W 101:12 101:14

(52) UK CL (Edition R)  
F4R RAG RMR R251 R321 R376 R417  
A3V V13A

(56) Documents Cited  
EP 0185922 A WO 98/36213 A US 5207500 A  
Derwent abstract 98-064780 & DE 029718173 Derwent  
abstract 98-075072 & NL 001002963

(58) Field of Search  
UK CL (Edition P) F4R RAG RMR  
INT CL<sup>6</sup> B62J 6/00, F21L 15/14, F21V 33/00  
ONLINE: WPI

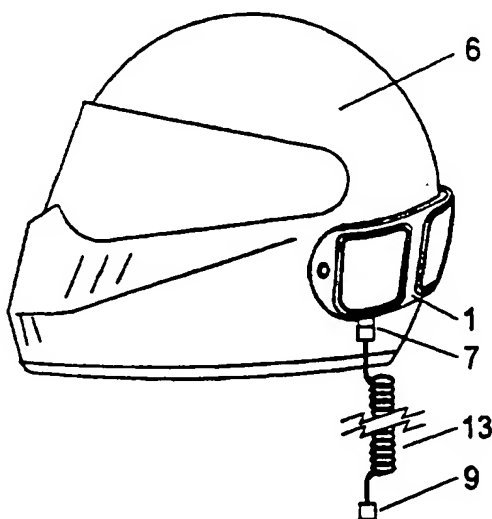
(54) Abstract Title  
Helmet mounted light system

(57) A motorcycle helmet or an attachment 1 for a motorcycle helmet 6 which is adapted to be fixed to the rear of the helmet, comprises at least one light, the light being provided so as to be connectable to the electrical system of the motorbike.

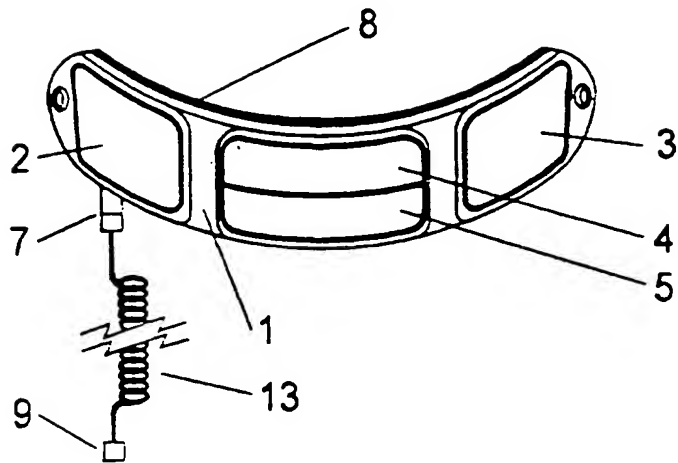
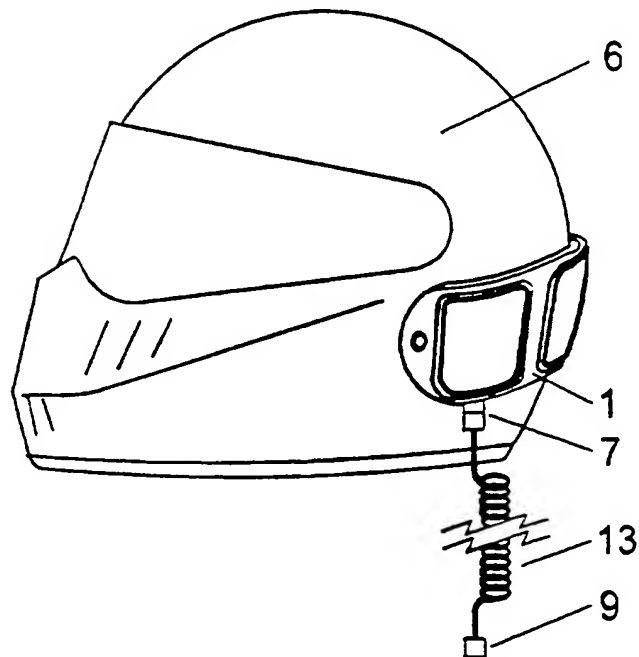
Lights may be brake, indicator or rear lights and may be formed from L.E.D's. The lights may be connected to the electrical system by easy break connectors. An alarm to sound if the lights are connected and the ignition is off may be included.

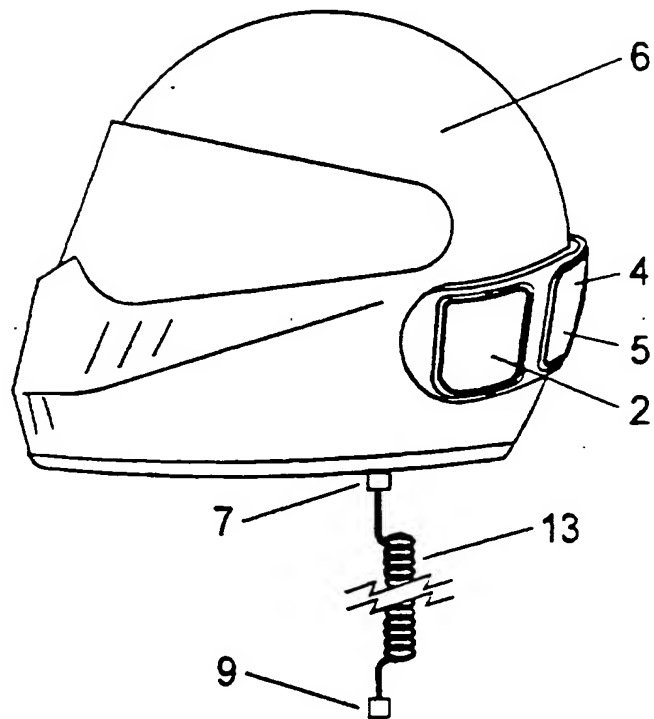
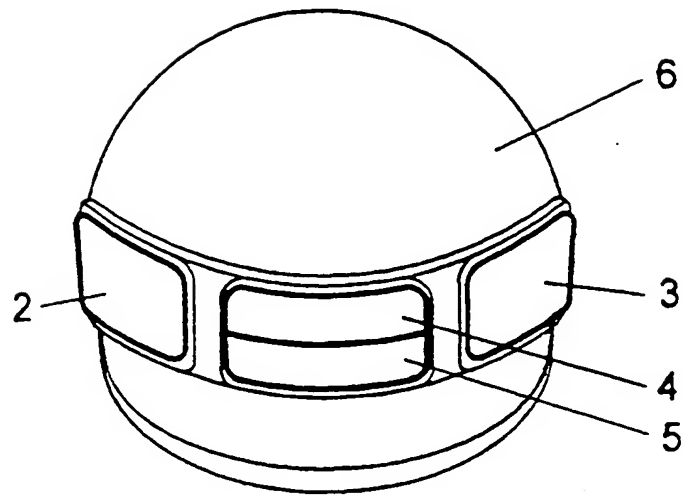
A terminal box comprising easy break connectors is also disclosed.

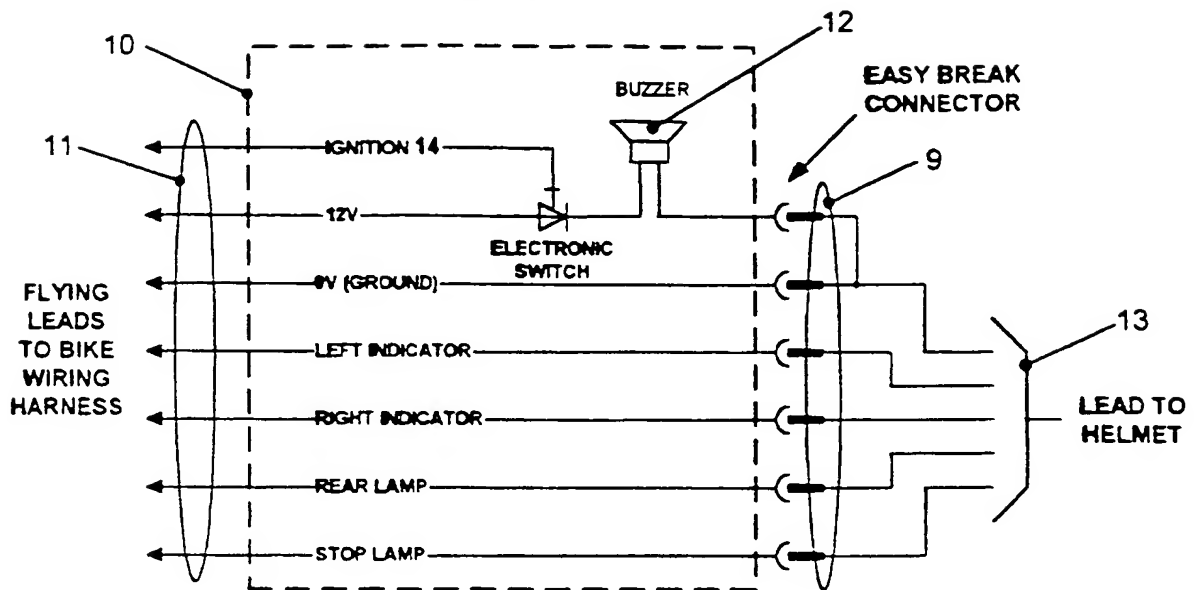
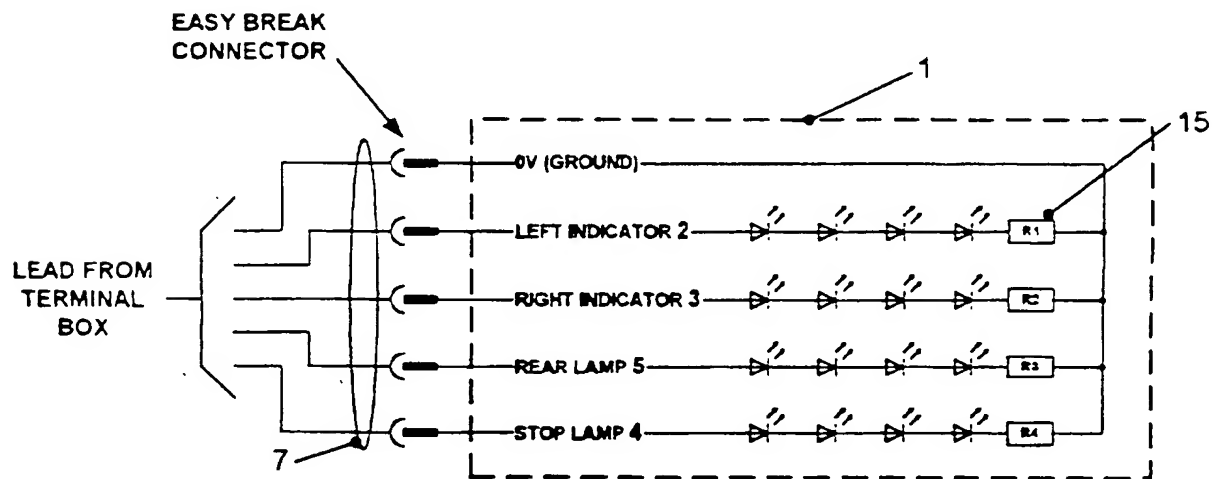
**Figure 2**



GB 2 341 227 A

**Figure 1****Figure 2**

**Figure 3**

**Figure 4****Figure 5**

HELMET MOUNTED LIGHT SYSTEM

The present invention relates generally to the field of helmets for users of vehicles such as motorbikes, trikes and go-carts or the like. More specifically, the invention relates to a helmet mounted light system.

One problem faced by motorcycle users is that because their rear lights are positioned so as to span only a very small area which is positioned relatively near the ground, it is difficult sometimes for other road users to see them. For example, it is difficult for a car driver to see the lights of a motorcycle when there is another car positioned between the driver and the motorcycle.

One known prior art solution to this problem has been to provide an attachment to the rear of a motorcycle helmet which comprises a light and associated battery pack. This increases the visibility of the motorcyclist because it is easier for other drivers to see a light positioned at this vertical level. However, this system has the disadvantage that the light does not tell other road users about the intended or actual actions of the motorcyclist.

The present invention seeks to alleviate this problem by providing an attachment for a motorcycle helmet; said attachment adapted to be fixed to the rear of the helmet and comprising at least one light and means for connecting said light to the electrical system of a motorbike.

Alternatively, the invention can provide a motorcycle helmet comprising at least one light and means

for connecting said light to the electrical system of a motorbike.

5 Preferably, the attachment or helmet comprises one or more of a left indicator light, a right indicator light, a rear light and a brake light.

Advantageously, the light (or lights) is (or are) formed from one or more LEDs.

10

The lights on the attachment or helmet can be connected to the motorbike electrical system using a wire connected via easy-break connectors. Alternatively, a radio link or infrared link could be used.

15

The invention will now be further described, by way of non-limitative example only, with reference to the accompanying drawings, in which:

20

Fig. 1 shows an attachment for a helmet in accordance with the present invention.

Fig. 2 shows a motorcycle helmet with the attachment of Fig. 1 attached;

25

Fig. 3 shows a side view and front view of a second embodiment of the invention, in which a motorcycle helmet is provided with one or more lights;

30

Fig. 4 shows a schematic arrangement of a bike-mounted terminal box in accordance with the present invention; and

35

Fig. 5 shows a schematic arrangement of a helmet-mounted light set in accordance with the present

invention.

In a first embodiment of the invention shown in Fig. 1, an attachment 1 for a motorcycle helmet is provided which comprises a plurality of lights 2, 3, 4, 5. The attachment 1 is adapted to be placed on the rear of the helmet 6 (as shown in Fig. 2) and has easily accessible easy-break connectors 7 formed on its outer surface for connection to the motorbike electrical system. In this embodiment, the attachment 1 comprises a left indicator light 2, a right indicator light 3, a rear light 5 and a brake light 4.

The attachment 1 is carried in its normal state and resilient so that when attached to the helmet 6 it grips the helmet 6 by virtue of its resilience. The inner surface of the attachment 1 is provided with a layer of a compliant material such as neoprene to accommodate variations in helmet shape. The attachment may be fixed to the helmet 6 by known adhesives or known releasable means.

Each of these lights is connected in parallel to a 0-volt ground line via a resistor 8 as shown in Figure 5. The resistor may not be necessary if other light emitting devices than LED's are used. In this embodiment, the lights comprise four LEDs each. The rear and brake light LEDs are red whilst the left and right indicator LEDs are amber. Each of the LEDs for each light are connected in series to a different easy-break connector 7. Easy-break connectors allow the connections to be removed without damage in the event of a sudden force on the wire. They form part of the known art and as such will not be described here in detail.

Corresponding easy-break connectors 9 are provided on a bike-mounted terminal box 10 as shown in Figure 4. These are then connected to the motorcycle electrical system via flying leads 11. A buzzer 12 is provided in the terminal box to warn the motorcyclist when the lead 13 is connected but the ignition 14 is turned off. This reminds the motorcyclist to remove the lead 13 before dismounting. The buzzer may be set to automatically cut off after a preset time, e.g. five seconds.

Preferably, the separate easy-break connectors will be formed by a single connector piece which the lead 13 connects with.

A second embodiment of the invention is shown in Figure 3. This is substantially identical to the first embodiment, except for the fact that there is no helmet attachment and instead the lights 2, 3, 4, 5 are provided on a portion of the helmet 6 itself. It is possible in this embodiment that the easy-break connectors 7 could be provided inside the helmet 6 so that the wire 13 connecting the helmet 6 to the motorbike could be fed down the motorcyclist's clothing.

All embodiments of this invention are designed to avoid any problems associated with rain water ingress and as such the attachment of the first embodiment is attachable to the motorcycle helmet in a sealed fashion.

It is not necessary for the working of this invention that the attachment or helmet is physically connected to the motorcycle electrical system. Instead, an infrared or radio link could be used. In this case, the attachment or helmet would have its own source of power in the form of batteries and the radio or infrared



link would be used to control the indicator, rear and  
brake lights.

Also, the bike-mounted terminal box of Figure 4  
5 could additionally comprise check indicators which show  
when the lead to the helmet is properly connected and  
operating. This is useful because it is hard to see when  
wearing the helmet if the lights are working properly and  
are therefore properly connected. These indicators could  
10 themselves be in the form of LEDs or other visual means.  
It may also be desirable to provide a high intensity  
light as a fog lamp using higher intensity LEDs

CLAIMS

1. An attachment for a motorcycle helmet; said attachment adapted to be fixed to the rear of the helmet  
5 and comprising at least one light and means for connecting said light to the electrical system of a motorbike.
2. A motorcycle helmet comprising at least one light  
10 and means for connecting said light to the electrical system of a motorbike.
3. An attachment according to claim 1 or a helmet according to claim 2 wherein said attachment or helmet  
15 comprises one or more of a left indicator light, a right indicator light, a rear light and a brake light.
4. An attachment according to claim 1 or 3 or a helmet according to claim 2 or 3 wherein said light (or lights)  
20 is (or are) formed from one or more LEDs.
5. An attachment according to claim 1, 3 or 4 or a helmet according to claim 2, 3 or 4 further comprising  
25 easy break connectors connected to said light (or lights).
6. An attachment according to claim 1, 3, 4 or 5 or a helmet according to claim 2, 3, 4 or 5 further comprising  
30 other easy-break connectors connected to said easy-break connectors by a wire, said other easy-break connectors being further connected to a motorcycle wiring system.
7. An attachment according to claim 1, 3 or 4 or a helmet according to claim 2, 3 or 4 further comprising a  
35 radio link or infrared link connecting said light (or

lights) to the electrical system of a motorbike.

8. An attachment according to claim 1 or any one of  
claims 3-7 or a helmet according to any one of claims 2-  
5 7, further comprising audible alarm means which is  
adapted to sound when said light (or lights) is (or are)  
connected to the motorcycle electrical system when the  
ignition is not on.

10 9. A terminal box adapted to be mounted on a motobike  
comprising easy-break connectors each attached to means  
for connecting to a motorbike electrical system.

10. A terminal box according to claim 9 further  
15 comprising audible alarm means.

11. A motorbike comprising the terminal box of claim 9  
or 10.

20 12. A motorbike according to claim 11 further comprising  
an attachment according to any one of claims 1 and 3-5 or  
a helmet according to any one of claims 2-5.

13. An attachment or helmet constructed and arranged  
25 substantially as hereinbefore described with reference to  
Figs. 1-5 of the accompanying drawings.

14. A terminal box constructed and arranged  
substantially as hereinbefore described with reference to  
30 Figs. 1-5 of the accompanying drawings.

15. A motorbike constructed and arranged substantially  
as hereinbefore described with reference to Figs. 1-5 of  
the accompanying drawings.



The  
Patent  
Office  
S

Application No: GB 9819144.8  
Claims searched: 1-8

Examiner: Ceri Witchard  
Date of search: 7 October 1998

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.P): F4R (RAG, RMR)

Int Cl (Ed.6): F21L (15/14) F21V (33/00) B62J (6/00)

Other: ONLINE: WPI

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	EP 0185922 (SLARVE) see page 2, lines 3-25, page 4 lines 26-36	2, 3, 5, 7
X	WO 98/36213 (BLEICHER) see page 3 line26 - page 4 line 4 and page 4 line33 - page 5 line 2	1, 2, 3, 4, 5
X	US 5207500 (RIOS) see abstract	2, 3
X	Derwent Abstract 98-064780 & DE 29718173 A (RICHTER)	1, 3, 7
X	Derwent Abstract 98-075072 & NL 1002963 (VAN DER LIEUW)	1, 3, 4

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☒ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**